

# Healthcare Associated Infection Report

## June 2018 data

### Section 1 – Board Wide Issues

Section 1 of the HAIRT covers Board wide infection prevention and control activity and actions. For reports on individual departments, please refer to the 'Healthcare Associated Infection Report Cards' in Section 2.

#### Key Healthcare Associated Infection Headlines

- ✚ **Staphylococcus aureus Bacteraemia**- No SAB to report in June.
- ✚ **Clostridium difficile infection**- No CDI to report.
- ✚ **Hand Hygiene**- The **bimonthly** report from May demonstrates a Board compliance rate of 98%. Medical staff compliance has increased from 92% to 96%.
- ✚ **Cleaning and the Healthcare Environment- Facilities Management Tool**  
**Housekeeping Compliance: 98.61%      Estates Compliance: 99.42%**
- ✚ **Surgical Site Infection**-  
Hip and Knee replacement SSI rates are within control limits.

Cardiac SSI rates breached upper control limits in February and have gradually reduced. However CABG SSI rates demonstrate an ongoing 7 points above the centre line.

No commonalities in surgeon, theatre or organism noted. The PCIT are collaborating with Tissue Viability, SCNs, Nurse Practitioners and SS Clinical Governance Lead and clinical teams to review and optimise practice to further promote SSI prevention via weekly SLWG meetings. Driver Diagram detailing the focus of the SLWG Appendix 1.

PAG established 22<sup>nd</sup> June.

#### **Other HAI Related Activity**

**Problem Assessment Groups (PAG)** - Locally convened group to further investigate an HAI issue which may require additional multidisciplinary controls.

PAGs	Update
<b>Cardiac/CABG Surgical Site Infection</b>	As above

## **Staphylococcus aureus (including MRSA)**

*Staphylococcus aureus* is an organism which is responsible for a large number of healthcare associated infections, although it can also cause infections in people who have not had any recent contact with the healthcare system. The most common form of this is Meticillin Sensitive *Staphylococcus aureus* (MSSA), but the more well known is MRSA (Meticillin Resistant *Staphylococcus aureus*), which is a specific type of the organism which is resistant to certain antibiotics and is therefore more difficult to treat. More information on these organisms can be found at: [http://www.nhs24.com/content/default.asp?page=s5\\_4&articleID=346](http://www.nhs24.com/content/default.asp?page=s5_4&articleID=346)

MRSA: [http://www.nhs24.com/content/default.asp?page=s5\\_4&articleID=252](http://www.nhs24.com/content/default.asp?page=s5_4&articleID=252)

NHS Boards carry out surveillance of *Staphylococcus aureus* blood stream infections, known as bacteraemias. These are a serious form of infection and there is a national target to reduce them. The number of patients with MSSA and MRSA bacteraemias for the Board can be found at the end of section 1 and for each hospital in section 2. Information on the national surveillance programme for *Staphylococcus aureus* bacteraemias can be found at:

<http://www.hps.scot.nhs.uk/haic/sshap/publicationsdetail.aspx?id=30248>

### **GJNH approach to SAB prevention and reduction**

It is accepted within HPS that care must be taken in making comparisons with other Boards data because of the specialist patient population within GJNH. All SAB isolates identified within the laboratory are subject to case investigation to determine future learning and quality improvement.

Small numbers of cases can quickly change our targeted approach to SAB reduction.

#### **Broad HAI initiatives which influence our SAB rate include-**

- Hand Hygiene monitoring
- MRSA screening at pre-assessment clinics and admission
- Compliance with National Cleaning Standards Specifications
- Audit of the environment and practices via Prevention and Control of Infection Annual Reviews & monthly SCN led Standard Infection Control Precautions and Peer Review monitoring
- Participation in National Enhanced SAB surveillance- gaining further intelligence on the epidemiology of SAB locally and nationally.

#### **SSI Related SAB**

- Introduction of MSSA screening for cardiac and subsequent treatment pre and post op as a risk reduction approach.
- Surgical Site Infection Surveillance in collaboration with Health Protection Scotland and compared with Health Protection Agency data to allow rapid identification of increasing and decreasing trends of SSI.
- Standardisation of post op cardiac wound care.
- Development and implementation of a wound swabbing protocol and competency.

#### **Device Related SAB**

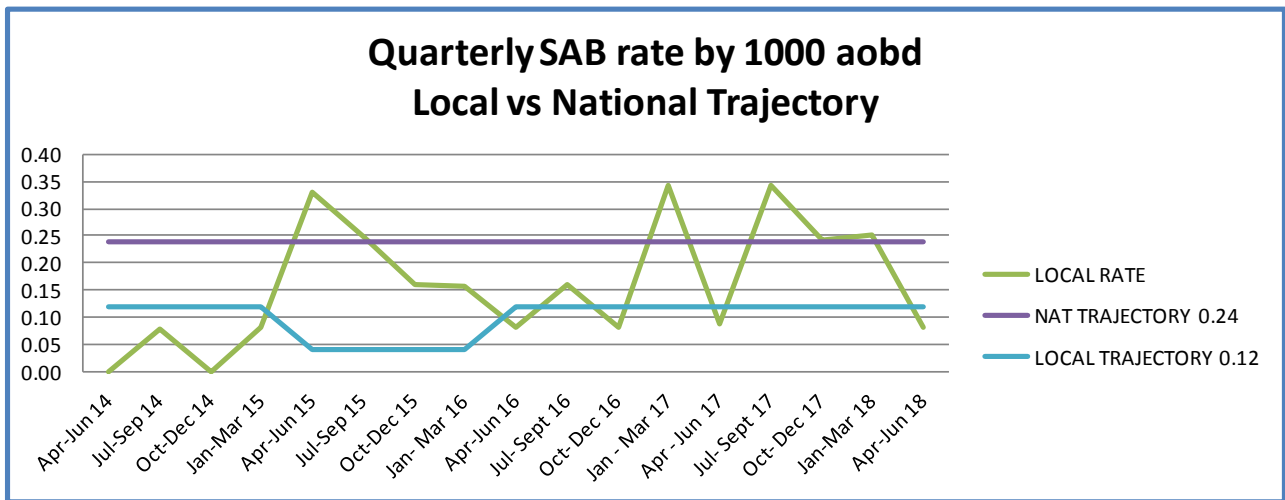
- SPSP work streams continue to aim to sustain compliance with PVC, CVC, PICC and IABP bundles; assessment of compliance locally aids targeting of interventions accordingly.
- Implemented new combined PVC insertion and maintenance bundle
- Implemented arterial line maintenance bundle in Critical Care.

### SAB Local Delivery Plan (LDP) Heat Delivery Trajectories

Boards are expected to achieve a rolling target of 0.24 cases per 1,000 acute occupied bed days or lower by year ending March 2018. Boards currently with a rate of less than 0.24 are expected to at least maintain this, as reflected in their trajectories.

New targets are expected in the summer from SGHD.

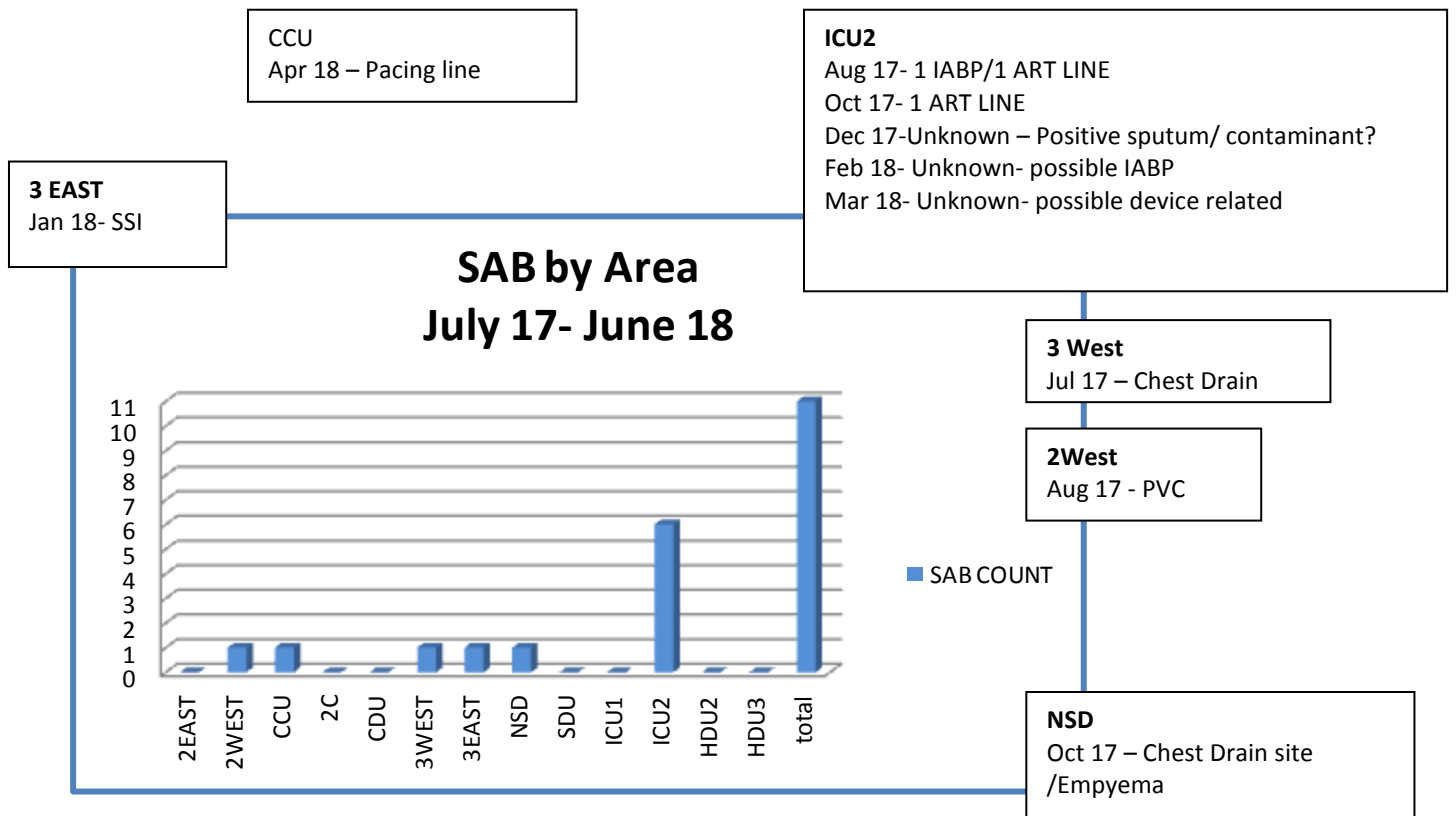
**From April 18- June 18, 1 SAB has been reported, this equates to a quarterly rate of 0.08 SAB per 1000 occupied bed days.**

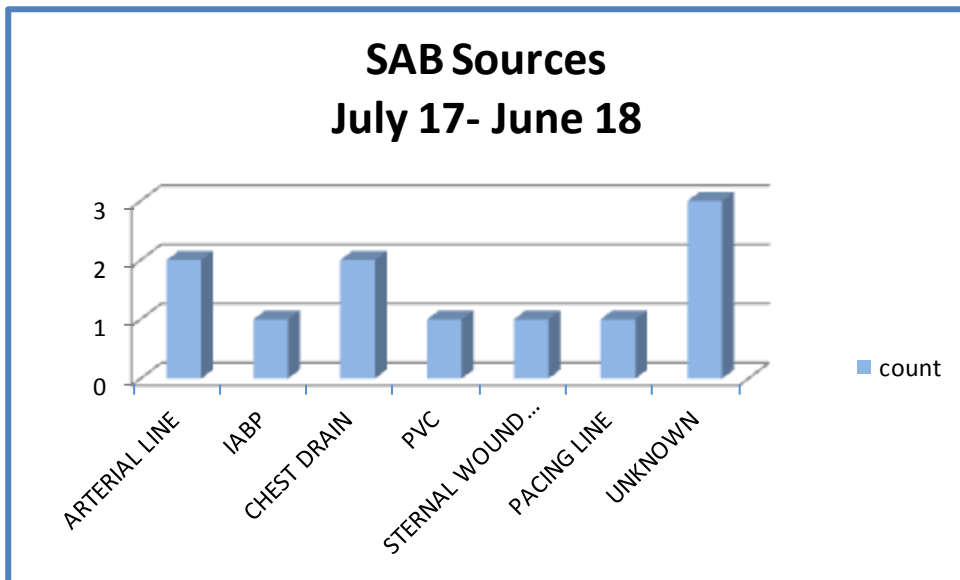


## Sources of SAB

The Prevention and Control of Infection Team continue to work closely with the clinical teams, CGRMDU and clinical educators to gain insight into the sources of SAB acquisition and associated learning. The data below demonstrates the area attributed with the largest number of SAB is ICU2 with varying sources of SAB noted.

Each SAB is subject to an enhanced surveillance process involving the PCIT, SCN and responsible consultant to determine any learning from the source of the SAB. Thereafter the Enhanced SAB surveillance reports are submitted to the relevant division clinical governance group to share potential learning and note actions required.





- PVC

Due to the number of PVC related SAB in 3 East 17/18 our initial SAB reduction workplan focused on refining developing a combined insertion and maintenance and insertion bundle in 3East, our last PVC related SAB in 3 East was in March 17.

This work has progressed throughout 17/18 to spread the standardised PVC bundle to all clinical areas including critical care within CIS. Compliance monitoring is lead by SPSP and supported by PCIN monthly snapshots and CNM Peer reviews that both include review of PVC/CVC documentation.

- Arterial Lines

Arterial line maintenance bundles have been developed within critical care on CIS. The aim of this bundle is to provide clear direction and documentation of care delivered during arterial line use. Critical care are also in the process of reviewing the arterial line policy.

- Emergency vs. Planned Admissions

Six of the eleven SAB cases in 17/18 were emergency admits to cath lab from SAS /GGC. Of the 7 SAB cases attributed to ICU 2, 6 of these were emergency cases admitted to cath lab. This type of emergency patient journey is integral to the service we provide and it is difficult to determine the impact of interventions performed in other units/services in emergency situations. Moving forward we will collect this data to determine any further trends.

## Clostridium difficile

*Clostridium difficile* is an organism which is responsible for a large number of healthcare associated infections, although it can also cause infections in people who have not had any recent contact with the healthcare system. More information can be found at:

<http://www.nhs.uk/conditions/Clostridium-difficile/Pages/Introduction.aspx>

NHS Boards carry out surveillance of *Clostridium difficile* infections (CDI), and there is a national target to reduce these. The number of patients with CDI for the Board can be found at the end of section 1 and for each hospital in section 2. Information on the national surveillance programme for *Clostridium difficile* infections can be found at:

<http://www.hps.scot.nhs.uk/haic/sshaip/ssdetail.aspx?id=277>

### GJNH approach to CDI prevention and reduction

Our numbers of CDI cases are low in comparison with other Boards, which is likely to relate to our specialist patient population.

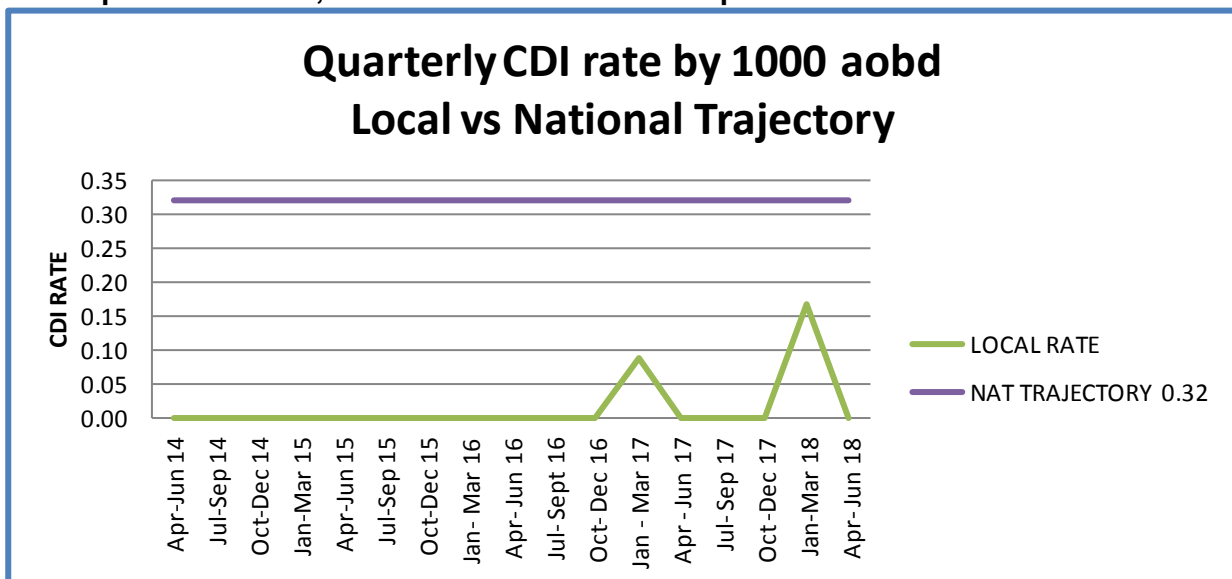
#### Actions to reduce CDI-

- Ongoing alert organism surveillance and close monitoring of the severity of cases by the PCIT.
- Unit specific reporting and triggers.
- Implementation of HPS Trigger Tool if trigger is breached.
- Implementation of HPS Severe Case Investigation Tool if the case definition is met
- Typing of isolates when two or more cases occur within 30 days in one unit.

### CDI LDP Heat Delivery Trajectories

Boards are again expected to achieve a rolling trajectory of 0.32 cases CDI per 1,000 occupied bed days by year ending March 2018. This relates to people aged 15 and over. Boards currently with a rate of less than 0.32 will be expected to at least maintain this, as reflected in their trajectories. New targets are expected in the summer from SGHD.

From April 18- June 18, 0 cases of CDI have been reported to date.



## Hand Hygiene

Good hand hygiene by staff, patients and visitors is a key way to prevent the spread of infections. More information on the importance of good hand hygiene can be found at:

<http://www.washyourhandsofthem.com/>

NHS Boards monitor hand hygiene and ensure a zero tolerance approach to non compliance. The hand hygiene compliance score for the Board can be found at the end of section 1 and for each hospital in section 2. Information on national hand hygiene monitoring can be found at:

<http://www.hps.scot.nhs.uk/haic/ic/nationalhandhygienecampaign.aspx>

### GJNH approach to Hand Hygiene

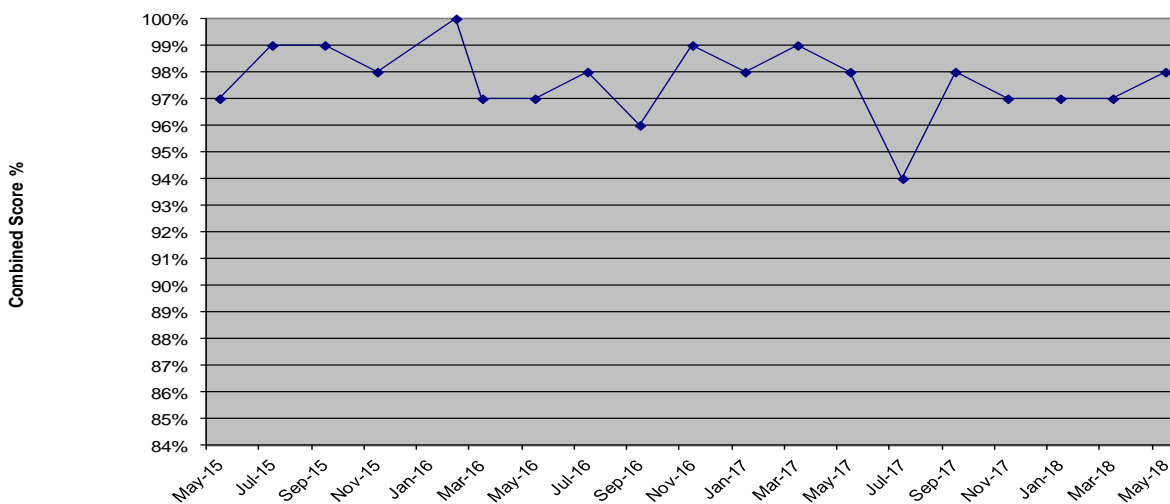
The **bimonthly** report from May demonstrates a Board compliance rate of 98%.

Medical staff compliance has increased from 92%- to 96%

Staff within the GJF are reminded to actively promote good hand hygiene and challenge non compliance. Escalation process for repeated non compliance currently under review.

All non compliant staff were spoken to at the time of episode and reminded of their responsibilities and requirement to comply with Standard Infection Control Precautions (SICP's), of which hand hygiene is a critical element.

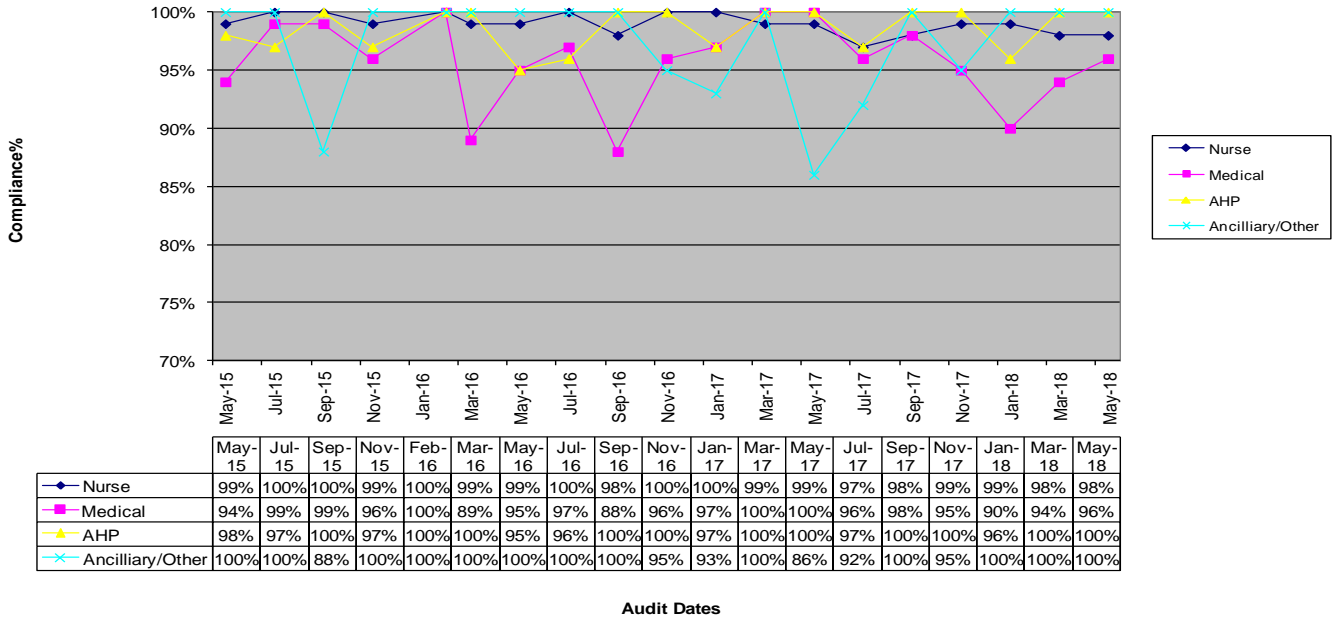
**HH Combined (Opportunity and Technique)Score**



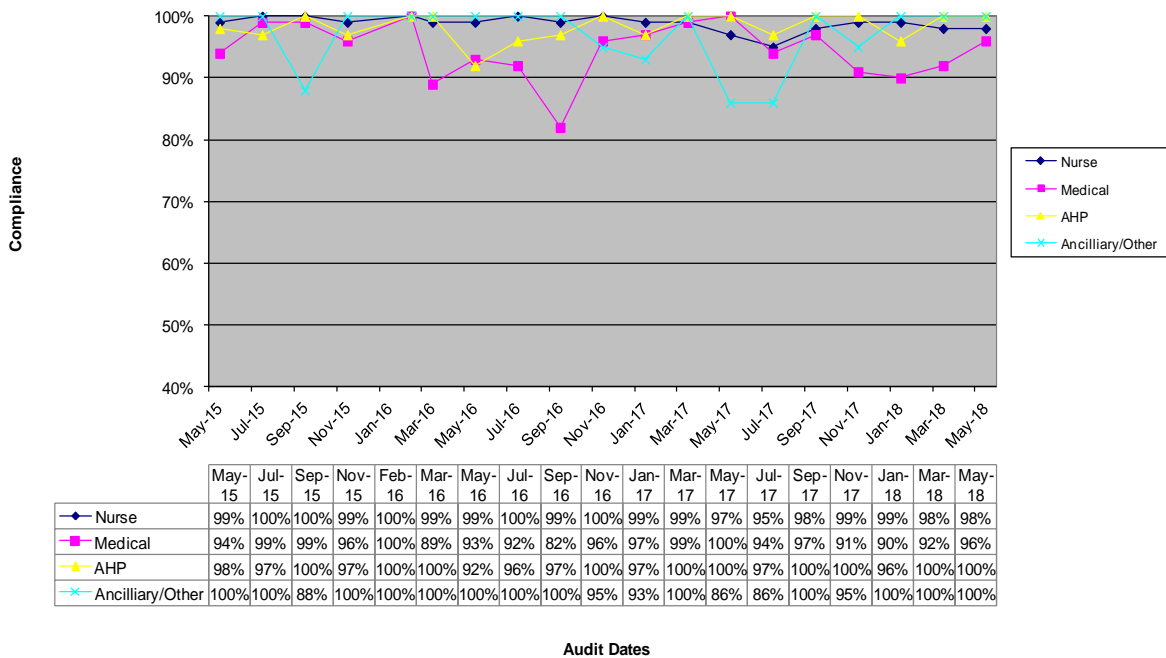
	May-15	Jul-15	Sep-15	Nov-15	Feb-16	Mar-16	May-16	Jul-16	Sep-16	Nov-16	Jan-17	Mar-17	May-17	Jul-17	Sep-17	Nov-17	Jan-18	Mar-18	May-18
COMBINED SCORE	97%	99%	99%	98%	100%	97%	97%	98%	96%	99%	98%	99%	98%	94%	98%	97%	97%	97%	98%

Audit Dates

### HH "Opportunity Taken" Compliance Board Level



### HH "Correct Technique" Compliance Board Level



Heather Gourlay- Senior Manager Prevention and Control of Infection  
 Sandra McAuley- Clinical Nurse Manager Prevention and Control of Infection  
 Date -10/07/18



## Summary of Non Compliance

AREA AUDITED	COMPLIANCE
PACU	85%
CDU	95%
NSD	95%
OPD	95%
TH 2	100%
TH 4	100%
TH 7	100%
TH 10	100%
TH 14	100%
2C	100%
2 EAST	100%
3 WEST	100%
3 EAST	100%
ICU 2	100%
HDU 3	100%
95% Compliance or above	
80% - 94% Compliance	
Below 80% Compliance	

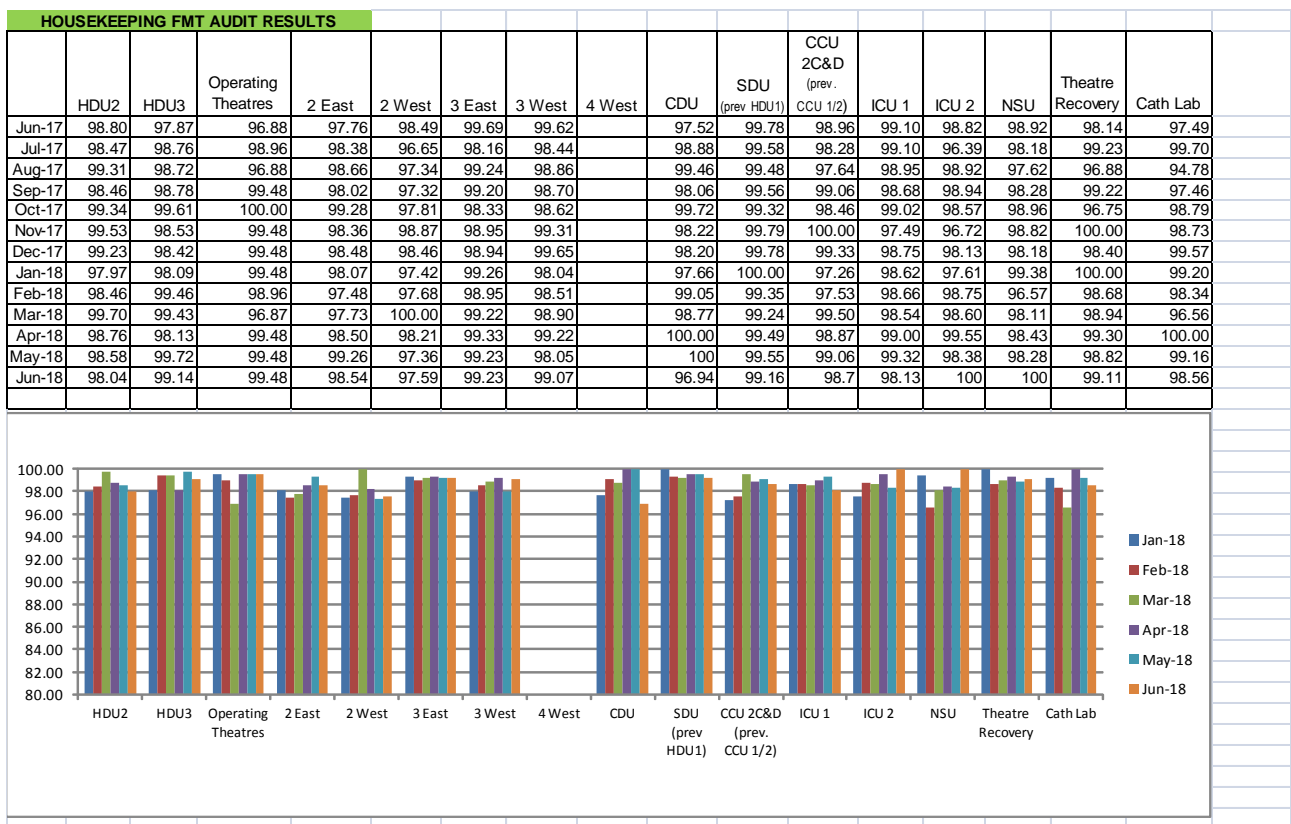
AREA	STAFF GROUP	KEY MOMENT	OPPORTUNITY TAKEN	CORRECT TECHNIQUE
PACU	N	1	NO	NO
PACU	N	1	NO	NO
PACU	D	1	NO	NO
CDU	N	1	NO	NO
NSD	N	1	YES	NO
OPD	D	1	NO	NO

# Cleaning and Maintaining the Healthcare Environment

## Housekeeping FMT Audit Results

Cleaning services continue to be monitored against the NHSScotland National Cleaning Service Specifications (NCSS) using the HFS Domestic monitoring tool. All healthcare facilities and component parts, e.g. wards, treatment rooms, corridors etc, are expected to be at least 90% compliant with the requirements set out in the NCSS.

Integral to the updated National Cleaning Services Specifications, the Housekeeping team have reviewed existing task sheets for each area to risk assess the frequency of tasks. The PCIT will conduct final review and they will be presented to the PCIC for approval and sign off at the Sept meeting.



## MRSA Screening Compliance

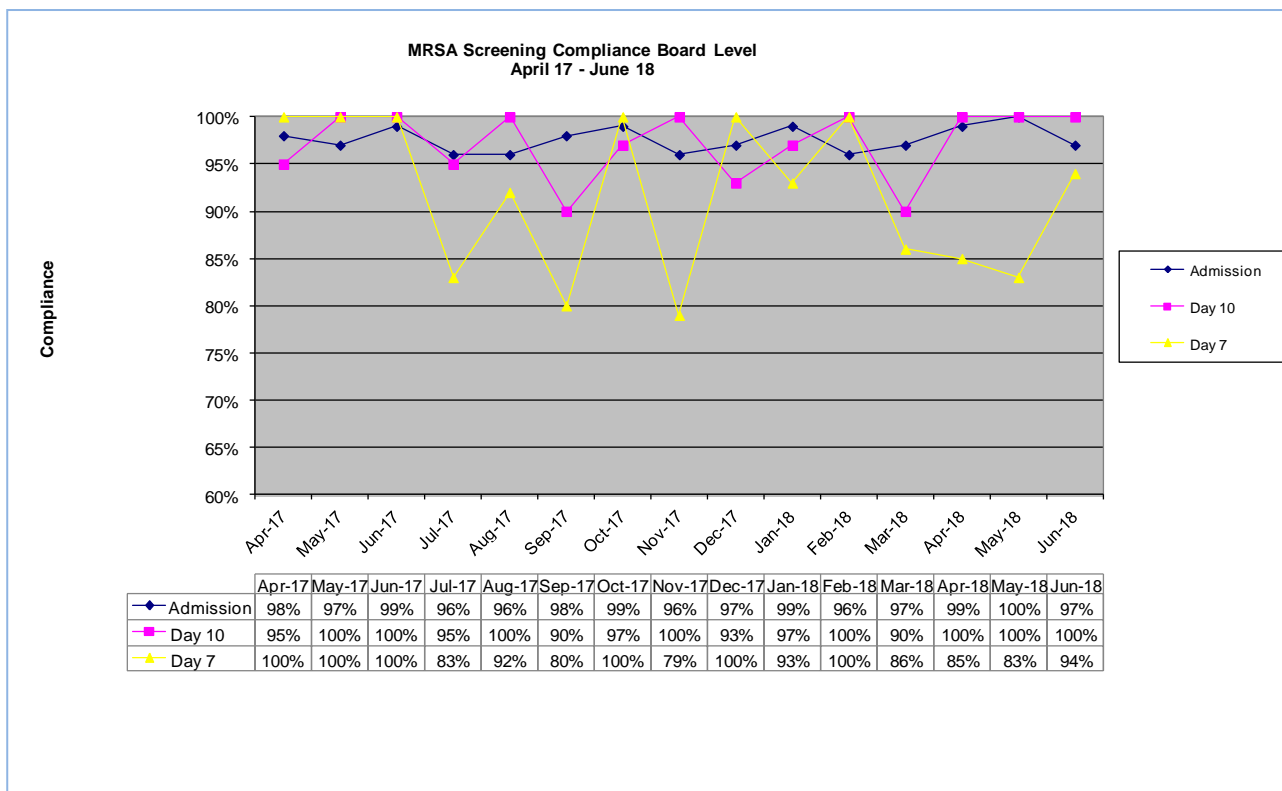
### Long Term Patient Screening

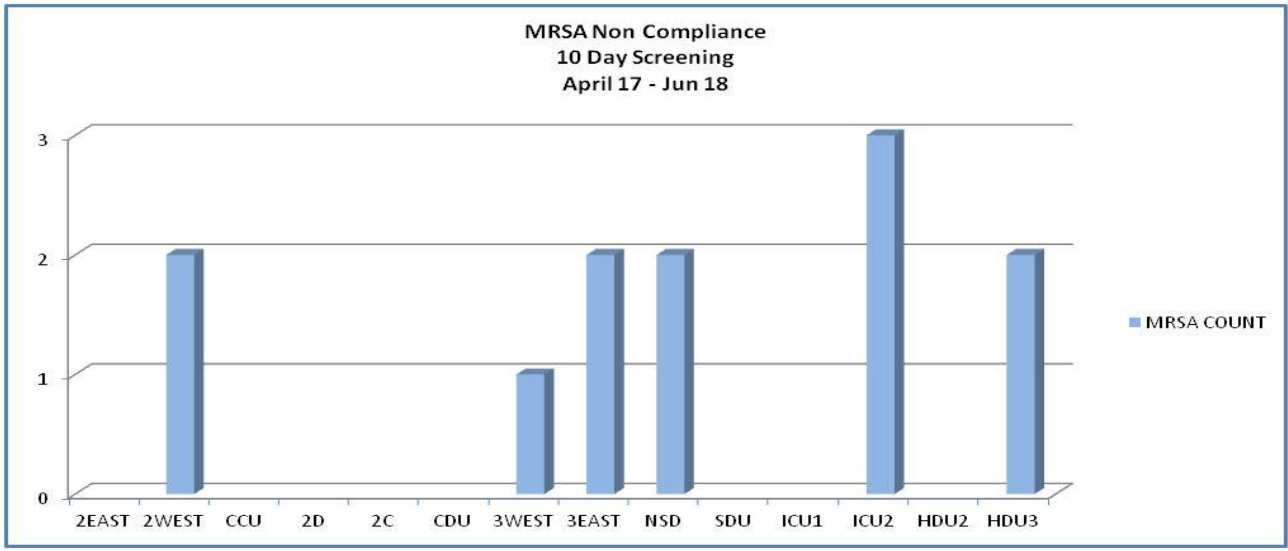
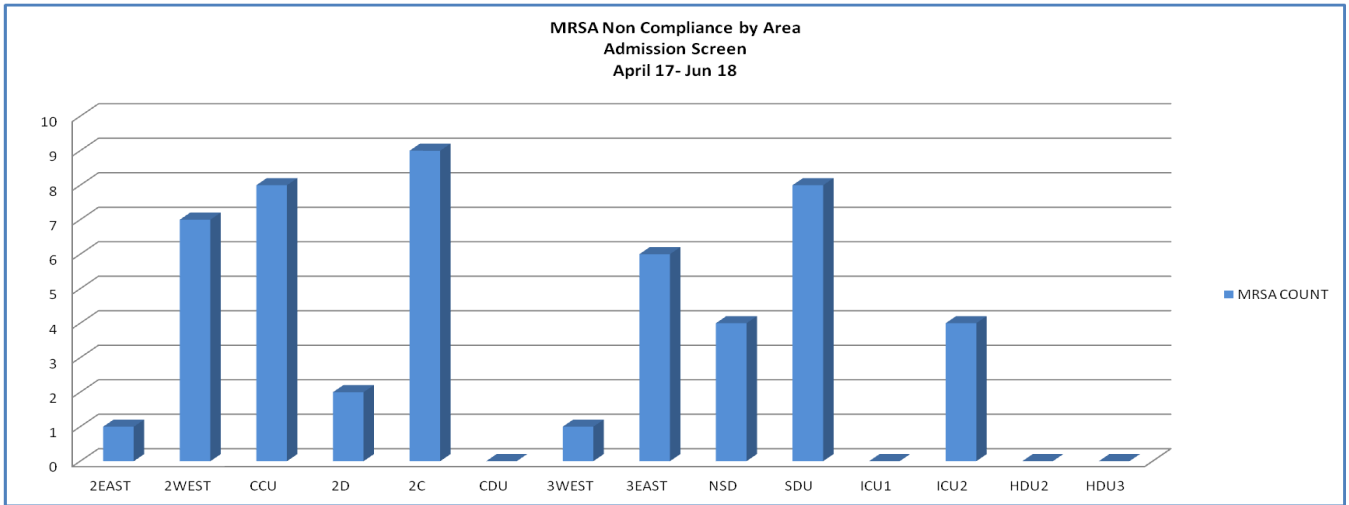
- All patients should be rescreened on Day 10 of stay and weekly thereafter.
- Day 10 screen was identified as the initial screen date as it captures patient stay beyond routine pathways.
- Compliance is monitored via reviewing a sample of eligible patients against submitted MRSA screens.
- SCNs are informed of results at the time of audit and informed an action plan required to improve compliance should be submitted.

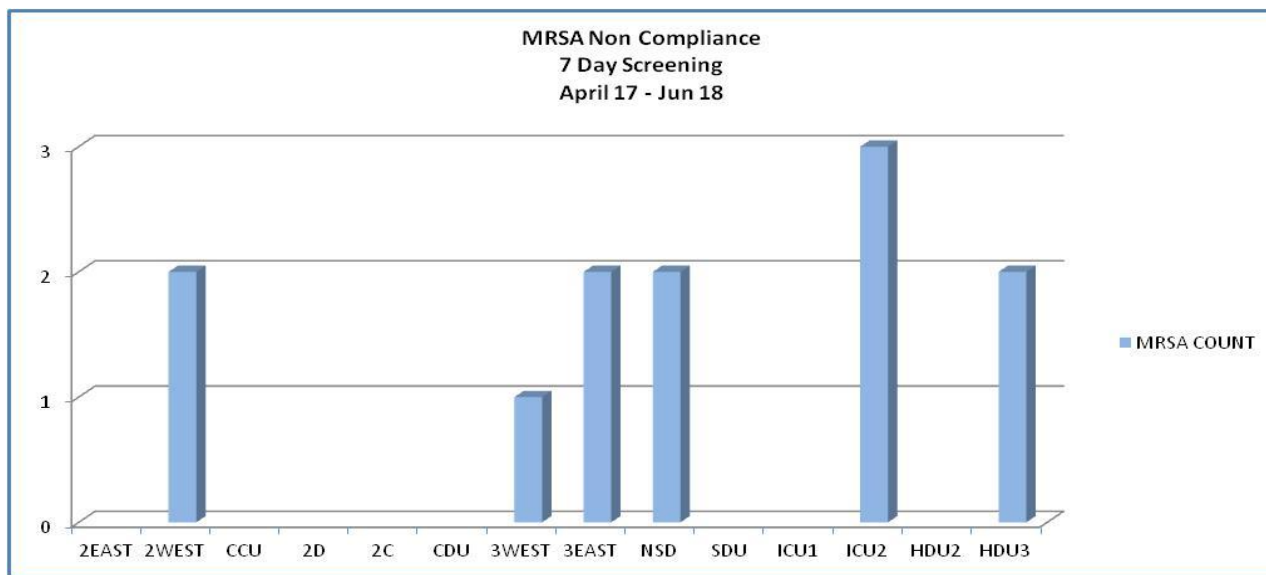
The table below provides an overall monthly compliance with MRSA screening and subsequent graphs detail compliance over time and non compliance by clinical area.

Jun-18	TOTALS
<b>SAMPLE SIZE</b>	157
<b>ADMIT COMPLIANCE</b>	<b>97%</b>
	<b>n=5</b>
<b>SAMPLE SIZE</b>	26
<b>10 DAY COMPLIANCE</b>	100%
	NA
<b>SAMPLE SIZE</b>	17
<b>7 DAY COMPLIANCE</b>	<b>94%</b>
	n=1

There were no reasons to account for the omitted admission screening.  
Day 7 screening appears to have been a genuine error / mix up of dates.







## Healthcare Associated Infection Reporting Template (HAIRT)

### Section 2 – Healthcare Associated Infection Report Cards

The following section is a series of ‘Report Cards’ that provide information, for each acute hospital and key community hospitals in the Board, on the number of cases of *Staphylococcus aureus* blood stream infections (also broken down into MSSA and MRSA) and *Clostridium difficile* infections, as well as hand hygiene and cleaning compliance. In addition, there is a single report card which covers all community hospitals [which do not have individual cards], and a report which covers infections identified as having been contracted from outwith hospital. The information in the report cards is provisional local data, and may differ from the national surveillance reports carried out by Health Protection Scotland and Health Facilities Scotland. The national reports are official statistics which undergo rigorous validation, which means final national figures may differ from those reported here. However, these reports aim to provide more detailed and up to date information on HAI activities at local level than is possible to provide through the national statistics.

#### Understanding the Report Cards – Infection Case Numbers

*Clostridium difficile* infections (CDI) and *Staphylococcus aureus* bacteraemia (SAB) cases are presented for each hospital, broken down by month. *Staphylococcus aureus* bacteraemia (SAB) cases are further broken down into Meticillin Sensitive *Staphylococcus aureus* (MSSA) and Meticillin Resistant *Staphylococcus aureus* (MRSA). More information on these organisms can be found on the NHS24 website:

*Clostridium difficile* :

[http://www.nhs24.com/content/default.asp?page=s5\\_4&articleID=2139&sectionID=1](http://www.nhs24.com/content/default.asp?page=s5_4&articleID=2139&sectionID=1)

*Staphylococcus aureus* : [http://www.nhs24.com/content/default.asp?page=s5\\_4&articleID=346](http://www.nhs24.com/content/default.asp?page=s5_4&articleID=346)

MRSA: [http://www.nhs24.com/content/default.asp?page=s5\\_4&articleID=252&sectionID=1](http://www.nhs24.com/content/default.asp?page=s5_4&articleID=252&sectionID=1)

For each hospital the total number of cases for each month are those which have been reported as positive from a laboratory report on samples taken more than 48 hours after admission. For the purposes of these reports, positive samples taken from patients within 48 hours of admission will be considered to be confirmation that the infection was contracted prior to hospital admission and will be shown in the “out of hospital” report card.

#### Targets

There are national targets associated with reductions in *C. difficile* and SABs. More information on these can be found on the Scotland Performs website:

<http://www.scotland.gov.uk/About/Performance/scotPerforms/partnerstories/NHSScotlandperformance>

### **Understanding the Report Cards – Hand Hygiene Compliance**

Hospitals carry out regular audits of how well their staff are complying with hand hygiene. Each hospital report card presents the combined percentage of hand hygiene compliance with both opportunity taken and technique used broken down by staff group.

### **Understanding the Report Cards – Cleaning Compliance**

Hospitals strive to keep the care environment as clean as possible. This is monitored through cleaning and estates compliance audits. More information on how hospitals carry out these audits can be found on the Health Facilities Scotland website:

<http://www.hfs.scot.nhs.uk/online-services/publications/hai/>

### **Understanding the Report Cards – ‘Out of Hospital Infections’**

*Clostridium difficile* infections and *Staphylococcus aureus* (including MRSA) bacteraemia cases are all associated with being treated in hospitals. However, this is not the only place a patient may contract an infection. This total will also include infection from community sources such as GP surgeries and care homes. The final Report Card report in this section covers ‘Out of Hospital Infections’ and reports on SAB and CDI cases reported to a Health Board which are not attributable to a hospital.

## NHS BOARD REPORT CARD

### *Staphylococcus aureus* bacteraemia monthly case numbers

	July 17	Aug 17	Sept 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
<b>MRSA</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>MSSA</b>	1	3	0	2	0	1	1	1	1	1	0	0
<b>Total SABS</b>	1	3	0	2	0	1	1	1	1	1	0	0

### *Clostridium difficile* infection monthly case numbers

	July 17	Aug 17	Sept 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
<b>Ages15-64</b>	0	0	0	0	0	0	1	0	0	0	0	0
<b>Ages 65+</b>	0	0	0	0	0	0	0	0	1	0	0	0
<b>Ages 15 +</b>	0	0	0	0	0	0	0	0	0	0	0	0

### Hand Hygiene Monitoring Compliance (%)

	July 17	Aug 17	Sept 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
<b>AHP</b>	97		100		100		96		100		100	
<b>Ancillary</b>	92		100		95		100		100		100	
<b>Medical</b>	96		97		91		90		92		96	
<b>Nurse</b>	97		98		99		99		98		98	
<b>Board Total</b>	94		98		97		97		97		98	

### Cleaning Compliance (%)

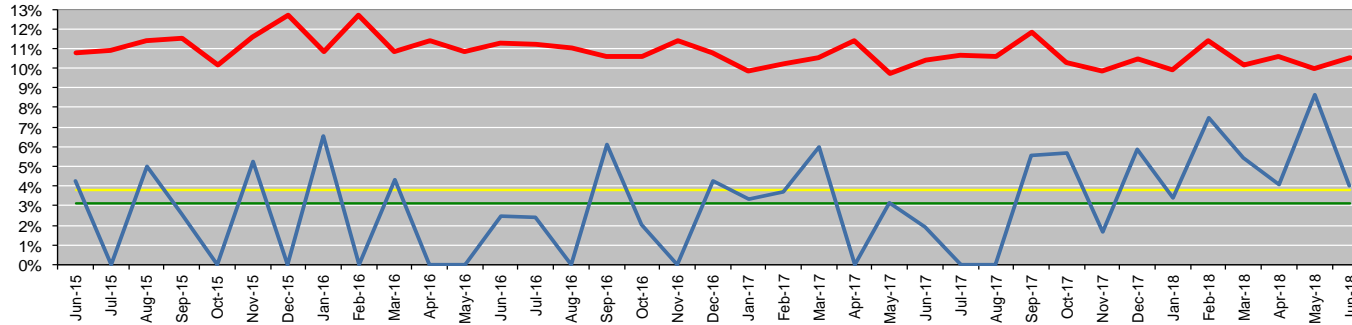
	July 17	Aug 17	Sept 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
<b>Board Total</b>	98.48	98.21	98.46	98.78	98.88	98.66	98.59	98.43	98.56	99.08	98.95%	98.61

### Estates Monitoring Compliance (%)

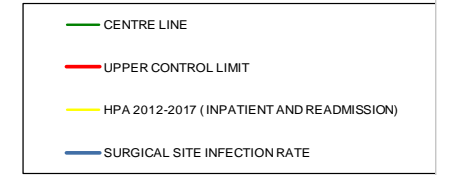
	July 17	Aug 17	Sept 17	Oct 17	Nov 17	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18
<b>Board Total</b>	99.17	99.06	99.34	99.31	98.48	99.52	99.48	99.37	99.39	99.42	98.95%	99.42

## Surgical Site Surveillance-CABG and CABG +/- Valve SSI Local Data

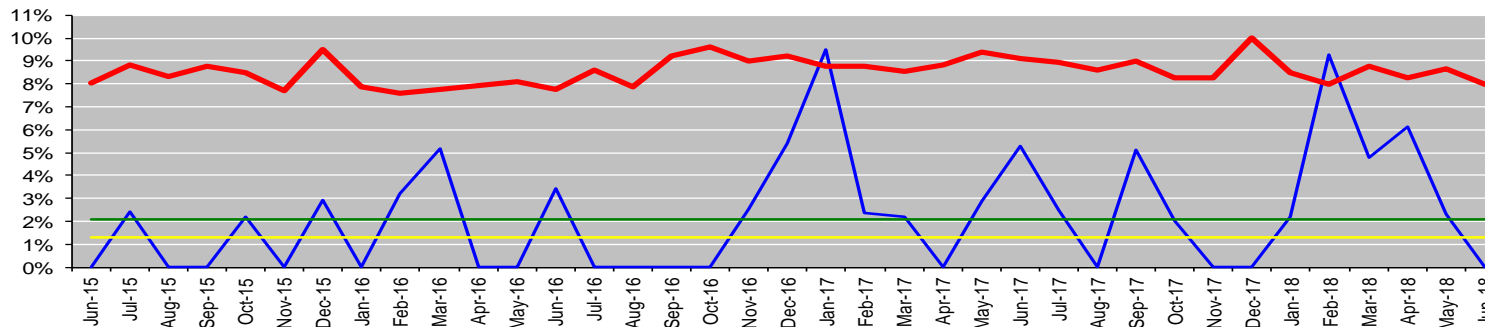
**CABG-Monthly Surgical Site Infection Rates**



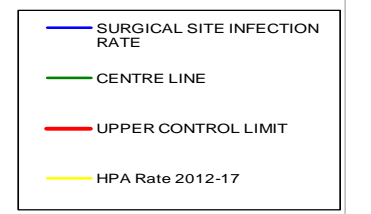
**CABG @30 days**  
 Jan 18- 1 Deep Sternal SSI & 1 Sup sternum  
 Feb 18- 3 Sup Sternum  
 Mar 18- 2 Sup Sternum/ 1 Deep Sternum  
 Apr 18- 2 Sup Sternum  
 May 18- 3 Sup Sternum+ Leg/ 1 Superficial Leg  
           1 Organ space Sternum  
 June 18- 2 Superficial Sternum



**Valve Replacement +/- CABG Surgery- Monthly Surgical Site Infection Rates**



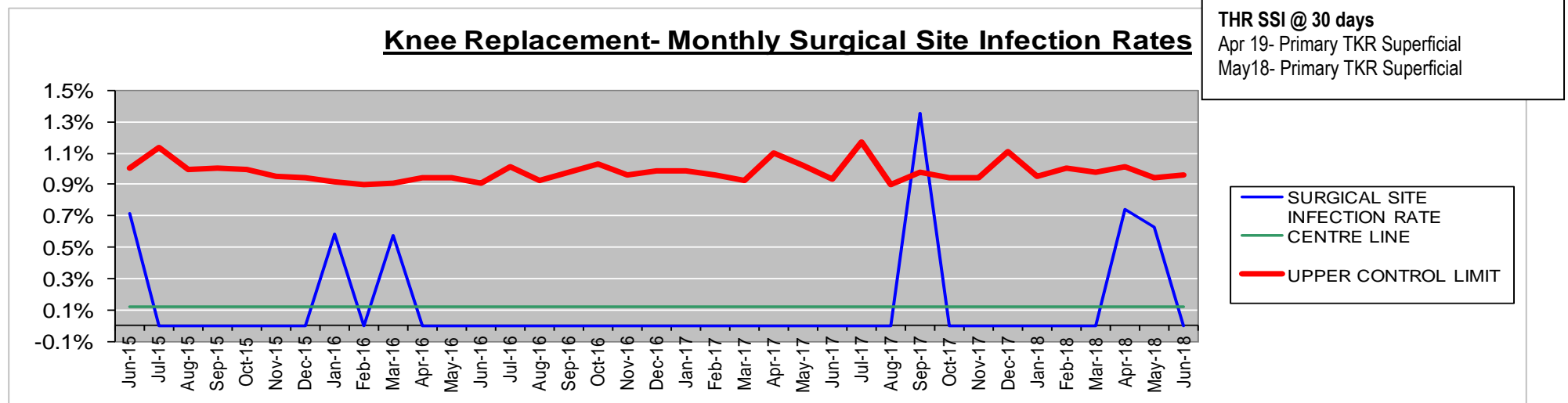
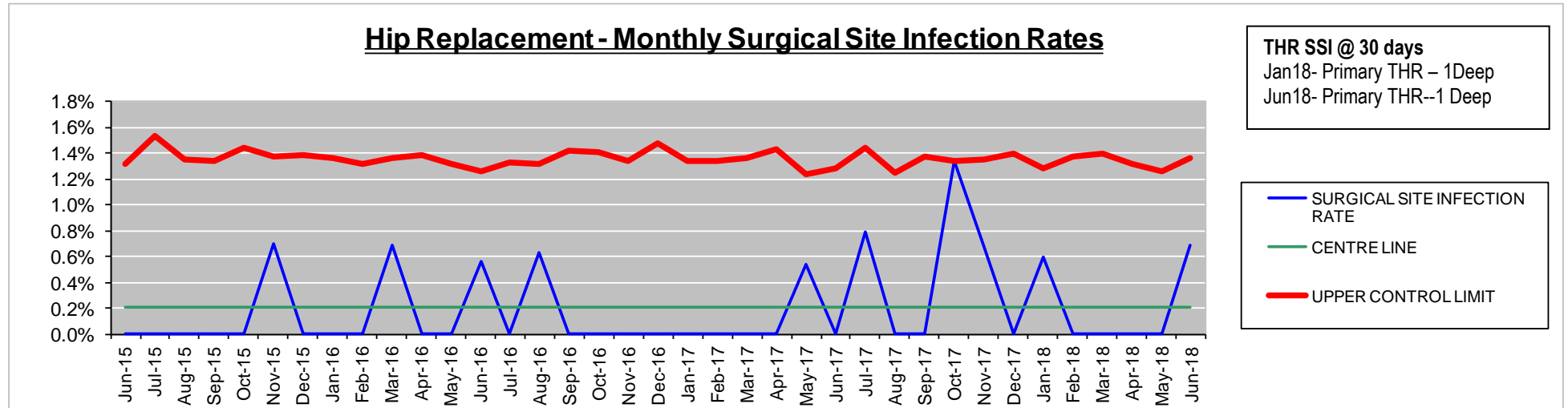
**Valve +/- CABG @30 days**  
 Jan 18- 1 Sup Sternum  
 Feb 18- 2 Superficial Sternum & Leg  
           2 Superficial Sternum  
           1 Superficial Leg  
 Mar 18- 2 Sup Sternum  
 Apr 18- 3 Sup Sternum  
 May 18- 1 Superficial Leg



\*A surgical site infection is defined a superficial, deep or organ space infection occurring within 30 days of operation. Definitions of superficial, deep and organ space are defined in Health Protection Scotland Surgical Site Infection Surveillance Protocol.



## Orthopaedic SSI Local data



\*A surgical site infection is defined a superficial, deep or organ space infection occurring within 30 days of operation. Definitions of superficial, deep and organ space are defined in Health Protection Scotland Surgical Site Infection Surveillance Protocol.

## HAIRT Table of Abbreviations

AHP	Allied Health Professional
CABG	Coronary Artery Bypass Graft
CCU	Coronary Care Unit
CDI/C. <i>difficile</i>	Clostridium Difficile Infection
CVC	Central Venous Catheter
DMT	Domestic Monitoring Tool
E.coli	Escherichia coli
FMT	Facilities Monitoring Tool
GJNH	Golden Jubilee National Hospital
GP	General Practitioner
HAI	Healthcare Associated Infection
HAIRT	Healthcare Associated Infection Report Template
HA MRSA	Hospital Acquired Meticillin Resistant Staphylococcus aureus
HEI	Healthcare Environment Inspection
HFS	Healthcare Facilities Scotland
HH	Hand Hygiene
HIS	Healthcare Improvement Scotland
HPA	Health Protection Agency
HPS	Health Protection Scotland
IABP	Intra aortic balloon pump
IC	Infection Control
ICAR	Infection Control Audit Review
LDP	Local Delivery Plan
MRSA	Meticillin Resistant Staphylococcus Aureus
MSSA	Meticillin Sensitive Staphylococcus Aureus
NAT	National
NCSS	National Cleaning Standard Specification
PAG	Problem Assessment Group
PCIC	Prevention & Control of Infection Committee
PCINs	Prevention & Control of Infection Nurses
PCIT	Prevention & Control of Infection Team
PVC	Peripheral Venous Cannula
SAB	Staphylococcus aureus bacteraemia
SCN	Senior Charge Nurse
SICP s	Standard Infection Control Precautions
SPSP	Scottish Patient Safety Programme
SSI	Surgical Site Infection
TBPs	Transmission Based Precautions
THR	Total Hip Replacement